May 28, 1940.

M. C. WELLES

2,202,178

ANIMATED DISPLAY

Filed March 15, 1939

Fig. 1

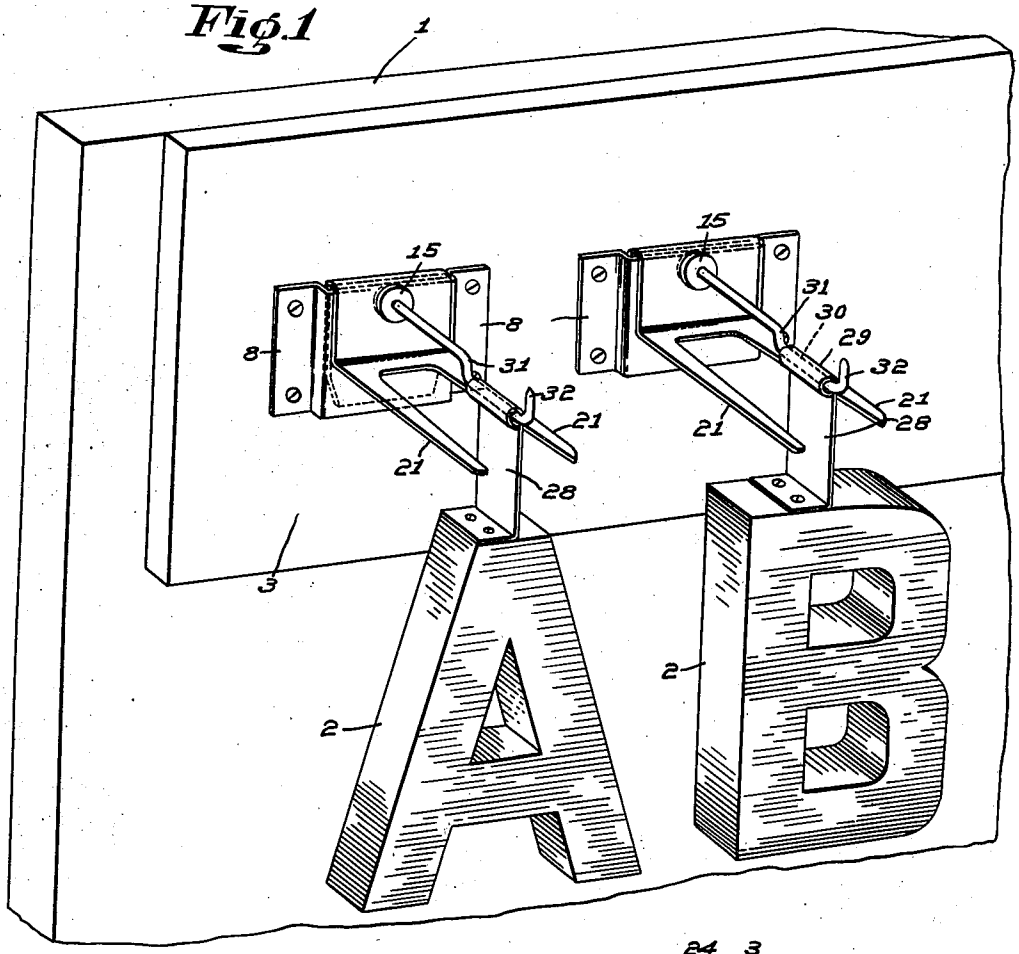


Fig. 3

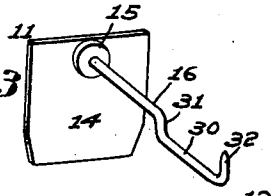


Fig. 4

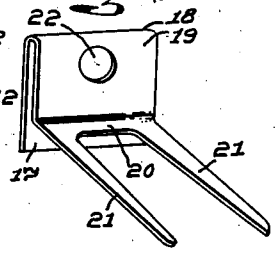
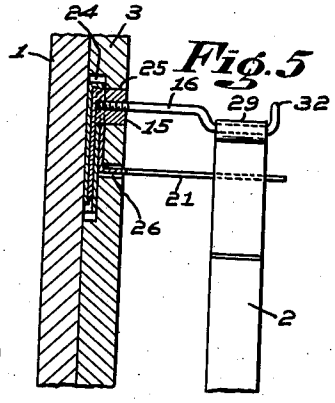


Fig. 5



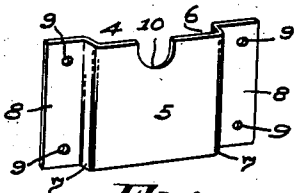


Fig. 2

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ANIMATED DISPLAY

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6 Claims. (Cl. 40—138)

The invention relates to an animated display having an element or elements activated by the wind, or by air blown from a fan.

The essential object of the invention is to so mount and control the elements that the desired end of successfully activating the elements by wind, or blown air, will be attained.

The invention can best be seen and understood by reference to the drawing in which:

Fig. 1 is a view in perspective showing the application of the invention to an outdoor sign.

Figs. 2, 3 and 4 are views showing perspectively various members used in the mounting of the movable elements, and by which they may be activated by wind, or blown air, and their motion restrained; and

Fig. 5 is a fragmentary view, partly in vertical section and partly in side elevation, of one of the elements shown in Fig. 1, with members used for mounting as shown in Fig. 2, but with modified mode of retention.

One of the foremost applications of the invention is to an outdoor sign. The body of these signs is usually metal plate, and any mounting of the movable element must be by application to the exterior facing of this plate. Reference will, accordingly, first be made to the application of the movable element to a metal sign.

Referring to Fig. 1 of the drawing, 1 represents a metal sign. 2 are members connected to the metal sign, and so mounted as to be movable by the wind. As shown in the drawing, these members are letters. They may, however, be of any desired form, or character. The letters as shown are simply illustrative.

It will be assumed that there is applied to the main face of the metal sign advertising matter. This application may be either by painting, or by matter cemented to the face of the sign. There is left, however, in the place for mounting the movable elements, a blank space in which direct contact is had with the metal surface of the sign. Arranged in this space, and cemented to the metal face of the sign, is a block 3. This block may be of wood, or any other suitable material, of strength sufficient to bear the weight of the movable elements and carry the parts attached to the block on which the elements are mounted. The block is made as thin as possible, and is painted, or colored, to have the same ground color as that of the main sign.

Secured to the face of the block 3 are socket forming members 4 which correspond in number with the number of elements 2 to be animated. The socket forming members 4 each consists of a metal plate bent to provide a portion 5 parallel with but offset from the block 3 to which the member 4 is secured so as to leave a socket 6 between it and the face of the block. The portion 5 is held thus offset by portions 7, 7 of the plate to which the portion 5 is integrally connected, and from the bottom edge of these portions 7, 7, integrally connected therewith, there extend laterally in opposite directions flanges 8, 8 which lie parallel with the portion 5 of the plate and are secured to the block 3 by any suitable mode of fastenings such as screws. The portion 5 is provided with a semi-circular slot 10 in the top edge thereof.

Each of the socket forming members 4 provides a mounting for members 11 and 12, respectively. Of these the member 11 is provided with a hanger from which the element 2 hangs suspended, and the member 12 is provided with stops by which the movement of the element 2 is controlled.

The member 11 as shown in Fig. 3 comprises a plate 14, generally rectangular in form and thus adapted to fit snugly within the socket 6 with inability to turn therein. The plate 11 is preferably provided on its front face at the top with a boss 15 which may be secured to the plate by welding. Secured to this boss is a rod 16 which provides the hanger from which the element 2 hangs suspended. The rod is preferably secured to the boss by threading its end into the boss, or may be otherwise secured thereto.

The member 12 as shown in Fig. 4 comprises a plate 17, which like the plate 11, is generally rectangular in form, and with the plate 11 fits within the socket 6. Along its top edge the plate 17 is provided with a bend 18 from which depends a leaf 19. This leaf lies parallel with the plate 17 in spaced relation to it, and bears on its bottom edge an out-turned flange 20 from which extend arms 21 which form the stops by which the movement of the element 2 is controlled. The leaf 19 has, also, a hole 22 in it adapted to receive the boss 15 on the plate 14 of the member 11 when the members 11 and 12 are assembled.

The members 11 and 12 are assembled before the leaf 19 has been turned down to lie parallel with the plate 17. The rod 16 of the member 11 is first passed through the opening 22 in the leaf 19 on the member 12, and the boss 15 on the plate 14 brought forward to fit within the opening, after which the leaf 19 is bent down to lie parallel with the plate 17.

After the members 11 and 12 are thus assembled the plates 14 and 17 of the respective members

are brought snugly together and slipped into the socket 6 in the member 4, the leaf 19 on the member 12 then extending outside of and over the portion 5 of the socket member 4. The plates 14 and 17 extend into the socket 6 until the bend 18 in the member 12 engages the top edge of the portion 5 to the socket member 4, and the boss 15 on the member 11 is brought to lie within the semi-circular slot 10 in the top edge of said portion 5. Thus mounted and secured, the rod 16 and the arms 21 will project outwardly from the face of the block 3 on which they are mounted, the rod acting to provide a support for the movable element, and the arms acting to control the movement thereof.

In Fig. 5 a modification is shown in that no socket forming member is applied to the face of the block 3 but the socket which receives the mountings for the rod 16 and arms 21 is formed within the block. To this end the block on the rear side thereof is provided with a socket 24 within which is contained the plate 14 of the member 11, and the plate 17 and leaf 19 of the member 12. The block is also provided with an opening 25 for receiving the boss on the rod 16, and also an opening 26 for receiving the flange, or web, 20 and arms 21 extending therefrom on the leaf 19. In assembling the parts as shown in Fig. 5 the members 11 and 12 are first assembled, the same as previously described. The assembled members are then applied to the block 3. The rod 16 is passed through the opening 25 in the block and the arms 21 through the opening 26 therein. The passage of the rod and arms is continued until the boss 15 on the arm 16 lies socketed within the opening 25, and the flange, or web 20 on the leaf 19 will lie within the opening 26. At the same time the plates 14, 17, and leaf 19 on the assembled members 11 and 12 will lie within the socket 24 in the block, after which the block is cemented to the sign 1, the face of the sign then closing the socket 24.

Each of the elements 2 is pivotally hung suspended from the rod 16 to move freely to and fro, or oscillate, in its own plane, without twisting or turning, by the combined forces of wind and gravity. The elements 2 are made relatively light in relation to their size so as to possess little inertia, and thus be readily moved by the wind. Balsa wood has been found very good for making the elements.

As indicated, each element is hung suspended from the rod 16 by means of a strap 28. This strap is secured at one end to the element in any suitable manner, preferably to the head of the element. At its opposite end the strap is turned to form a sleeve 29 embracing the rod 16, which provides pivotal bearing therefor. The strap is preferably a metal strap; one that will retain its shape and not twist and is, also, a relatively wide strap with wide bearing on the rod 16 to prevent twisting or turning of the element. To prevent lateral displacement of the element and strap, that portion 30 of the rod which provides a pivotal bearing for the strap is dropped so that portions 31 and 32 of the rod will provide bearings for the ends of the sleeve to prevent end displacement thereof.

The rod 16 from which the element hangs suspended lies above and in an intermediate position between the stop arms 21, 21. The strap 28 will, accordingly, pass centrally between these arms when the element lies in its normal gravitated position. The stop arms will not prevent any normal and proper oscillation of the element, but any abnormal oscillation thereof will be prevented by the arms through engagement of the strap 28 therewith.

I claim:

1. In a display the combination with the body thereof of a block affixed thereto, an element adapted to be activated by wind, or blown air, arranged adjacent said block, means for mounting said element from said block as a base of support whereby said element will freely oscillate only in a single plane, and means connected to said block for limiting oscillatory movement of said element.

2. In a display the combination with the body thereof of a block affixed thereto, an element adapted to be activated by wind, or blown air, arranged adjacent said block, means for mounting said element from said block as a base of support whereby it will oscillate only in a single plane including a member bearing a hanger from which said element may hang suspended, means for socketing said member whereby said hanger will project in direction substantially normal to said block when said member is socketed as aforesaid, and means attaching said element to said hanger whereby it may hang suspended therefrom and turn pivotally thereon.

3. In a display the combination with the body thereof of a block affixed thereto, an element adapted to be activated by wind, or blown air, arranged adjacent said block, means for mounting said element from said block as a base of support whereby it will oscillate only in a single plane and with limited oscillatory movement including a set of assembled members, one bearing a hanger from which said element may hang suspended and the other stops for limiting oscillatory movement of said element, means for socketing said members when assembled whereby said hanger and said stops will project in directions substantially normal to said block when said assembled members are socketed as aforesaid, and means having an extension between said stops for attaching said element to said hanger whereby it may hang suspended therefrom and turn pivotally thereon and be restrained by said stops upon undue oscillatory movement of said element.

4. In a display having an element adapted to be animated by wind, or blown air, a set of assembled members, one providing a hanger from which said member may hang suspended, and the other stops for limiting the oscillatory movement of said member, said one of the members including a plate and rod extending therefrom providing said hanger as aforesaid, the other including a plate with turned edge and dependent leaf with arms extending therefrom providing said stops as aforesaid, the plate of said one member lying between the plate and leaf of said other member with said rod extending through said leaf when said members are assembled.

5. In a display the combination comprising a body, an element adapted to be activated by wind or blown air arranged adjacent said body, means for mounting said element from off said body whereby it will oscillate only in a single plane and with limited oscillatory movement, including a set of assembled members, one bearing a hanger from which said element may hang suspended and the other stops for limiting the oscillatory movement of said element, and means for socketing said members when assembled whereby said hanger and said stops will project in directions substantially normal to said body when said assembled members are socketed as aforesaid.

6. In a display the combination comprising a body, an element adapted to be activated by wind or blown air arranged adjacent said body, means for mounting said element from off said body whereby it will oscillate only in a single plane and with limited oscillatory movement, including a set of assembled members, one bearing a hanger from which said element may hang suspended and the other stops for limiting the oscillatory movement of said element, means for socketing said members when assembled whereby said hanger and said stops will project in directions substantially normal to said body when said assembled members are socketed as aforesaid, and means having an extension between said stops for attaching said element to said hanger whereby it may hang suspended therefrom and turn pivotally thereon and be restrained by said stops upon undue oscillatory movement of said element.

MERRILL C. WELLES.